



Student: **Michael Higley-Vance**

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EL7002-8

Dr. Linda Collins

E-Learning Instructional Strategies

Activity #2: Synchronous -vs- Asynchronous Technologies

Comments:

Faculty Use Only

Hi, Michael, excellent work on your discussion about synchronous and asynchronous technologies. Please see additional comments in the paper. Dr. Collins

Dr. Linda D. Collins 6.9 2.9 October 1, 2013

Synchronous versus Asynchronous Technologies

Michael Higley-Vance

Northcentral University

Synchronous versus Asynchronous Technologies

Online learning environments are becoming more frequent in teaching and learning than ever before (Bonk & Zhang, 2006; Er, Özden, & Arifoglu, 2009; Skylar, 2009). Synchronous and Asynchronous learning technologies are the two most common online learning types and the most researched online learning types (Hrastinski, 2008; Er et al., 2009; Simonson, Smaldino, Albright, & Zvacek, 2012). The purpose of this paper is to discuss the advantages of using both synchronous and asynchronous technologies in an online learning environment and discuss the potential these technologies have to transform teaching and learning.

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Comment [1]: lowercase

Synchronous Learning

In an online classroom environment many of the learning activities and expectations are similar to those found in a traditional classroom. These learning environments offer meaningful interactions in a face-to-face setting and are most commonly referred to as synchronous learning activities (Hrastinski, 2008; Harris et al., 2009; Simonson et al., 2012). Lectures, discussions, and lesson presentations occur at a specific point in time with the expectation that all students will be available to participate. Synchronous learning environments offer students and teachers with multiple ways of interacting, sharing, and the ability to collaborate and ask questions in real-time through synchronous learning technologies. Synchronous technologies support teaching and learning and make it possible for teachers and students to communicate and interact in real time (Er et al., 2009; Skylar, 2009; Meloni, 2010).

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Comment [2]: Good introduction to the synchronous format.

Synchronous Technologies

Synchronous learning environments tend to be interactive and contain multiple discourse opportunities, which require students and teachers to be online at the same time. Examples of synchronous online technology types include videoconferencing, webcasts, interactive learning

models, and telephone conferences (Er et al., 2009; eLearners.com, 2012). With a growing increase in information technologies and online connection possibilities the internet is constantly hosting a number of synchronous technologies that can be used to enhance and engage student learners online (Hrastinski, 2008; Skylar, 2009). A number of educational benefits can be observed from the use of these technologies in an online learning environment including: (a) enhanced student engagement, (b) student and teacher collaboration, and (c) instructional pacing specific to individual student needs (Hrastinski, 2008; Skylar, 2009; Meloni, 2010; eLearners.com, 2012). These topics will be explored in more detail in the following sections.

Student Engagement. In addition to videoconferencing, webcasts, and telephone conferences other examples of synchronous technology types include virtual worlds and chat rooms (Er et al., 2009; eLearners.com, 2012). In order to successfully participate in a virtual learning and chat room environment students must be engaged in student-learning, which is the most important learner characteristic a student can demonstrate. Huang, Lin, and Huang (2010) suggest that engaging learning opportunities should be created to enhance online participation and if done purposefully could result in better student involvement than that observed in a traditional classroom environment (Martinez-Caro, 2011). It should be noted that the learning activities created could become overwhelming and cause learners to become disinterested and fail (Diaz & Entonado, 2009). Therefore, it is imperative to create engaging lessons that incorporate a balance of learning expectations with the number of assignments and related learning technologies.

Synchronous Collaboration. Studies show that the higher a learner perceives the level of collaboration the more satisfied they are with e-learning overall (Diaz & Entonado, 2009; Er et al., 2009). In both the traditional and online classroom environments, interaction and

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Comment [3]: These are all great opportunities for a class to connect.

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Comment [4]: That's correct, you do not want to make it so cumbersome and as you say overwhelming as this can discourage the student.

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Comment [5]: Great statement

collaboration are identified as a major factor in successful learning outcomes (Bonk & Zhang, 2006; Martinez-Caro, 2011). If teachers can engage student learners in a collaborative activity and can get them to discuss their thought **processes** this collaborative exercise supports online learning (Hrastinski, 2008). In an online learning environment the teacher's role becomes more about facilitating, guiding, and motivating the **learner** (Diaz & Entonado, 2009) and can be successfully achieved through feedback and collaboration. Er et al. (2009) indicated that in a synchronous learning environment students have the opportunity to receive immediate feedback and can therefore, adjust their learning goals as the need presents itself. This is an acknowledged benefit of traditional classroom learning and becomes apparent to learners in a synchronous online environment (Huang et al., 2010).

Instructional Pacing. Online learning environments provide flexibility and offer students personalized learning opportunities (Lorenzo & Ittelson, 2005). Students learning online have the opportunity to express their thoughts without judgment or interruptions (Er et al., 2009). Garrison & Kanuka (2004) suggests that individualized learning experiences allows students to progress as they demonstrate mastery of academic content, regardless of time, place, or pace of **learning**. Online learning experiences can be developed to provide advanced educational opportunities that provide specifically for individual student learning needs. Studies have shown that synchronous learning technologies improve student meta cognition and enhance vocabulary (Hrastinski, 2008; Diaz & Entonado 2009). The literature reviewed provides evidence that individualized instructional pacing using synchronous technologies improves student learning in online learning environments.

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Comment [7]: very true.

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Comment [8]: This is such a great opportunity.

Asynchronous Learning

In an asynchronous learning environment students are able to actively participate in their own learning, giving them the opportunity to interact with their peers, provide peer feedback, and reflect on the status of their personal learning goals and outcomes (Er et al., 2009; Harris et al., 2009; Simonson et al., 2012). In many learning environments there are learning activities and expectations that require students to create, synthesize, explain, and apply the content or skills being taught (Harris, Mishra, & Koehler, 2009; Simonson et al., 2012). Some examples of asynchronous tools include audio and video files, CD-ROM software, podcasts, e-mail, electronic portfolios, and discussion boards (Er et al., 2009; eLearners.com, 2012). Er et al. (2009) notes that if asynchronous learning is relied on solely during an online learning experience then learners may feel isolated and be less motivated to complete learning expectations.

Asynchronous Technologies

Asynchronous technologies support learning and allow more time for student reflection, collaboration, and student-to-student interactions (Bonk & Zhang, 2006; Skylar, 2009; Meloni, 2010). According to Meloni (2010) asynchronous communication and learning is by far the more popular learning type because the personal learning difficulties tend to be much less because many of these learning tools are free, require minimal hardware, and are used at the student's pace. Just as with synchronous learning, the growing increase in IT and online connections has also provided asynchronous online learning opportunities by providing learning technologies that support these types of learning environments. A number of educational benefits can be observed from the use of asynchronous technologies in an online learning environment including: (a) enriched student products and portfolios, (b) student and teacher

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Comment [9]: This is possible. However, what about learners who prefer to be in a self-paced one-on-one environment?

collaboration, and (c) learner specific pacing geared to the individual student needs (Hrastinski, 2008; Skylar, 2009; Meloni, 2010; eLearners.com, 2012). These topics will be explored in more detail in the following sections.

Student Portfolios. Electronic portfolios (e-folios) demonstrate a student's skill and knowledge level of a special topic collected over time. Online learners often create e-folios that combine text, images, presentations, video, audio, links, and a discussion space to demonstrate mastery of a specific content area or subject matter (Mason, Pegler, & Weller, 2004; Lorenzo & Ittelson, 2005; eLearners.com, 2012). Many institutions have begun viewing e-folios as a replacement for traditional classroom high stake assessments (Lorenzo & Ittelson, 2005). Teachers who teach in online learning environments can also benefit from using an e-folio with their online students. An e-folios helps facilitate the exchange of ideas, discourse, and subject area feedback between student and teacher creating a meaningful learning experience for the student (Lorenzo & Ittelson, 2005).

Asynchronous Collaboration. As with synchronous collaboration, studies have shown that collaboration increases overall student learning in online learning environments (Diaz & Entonado, 2009; Er et al., 2009). A sense of community is necessary to sustain the educational experience over time and this can be achieved through collaborative learning communities (Garrison & Kanuka, 2004). Online learning environments support student reflection on what they have learned and meet the needs of asynchronous learners who prefer to view, watch, and reflect upon the learning activities and lessons (Bonk, & Zhang, 2006). In an asynchronous online learning environment the teacher's role is still about developing and facilitating a student's learning experience (Diaz & Entonado, 2009). This facilitation can be successfully achieved through asynchronous collaboration by allowing students to thoughtfully consider

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Comment [10]: Some institutions also have implemented e-portfolios that span the student's academic career at their institution.

learning objectives because in an asynchronous learning environment students have the time to critically synthesize their learning (Garrison & Kanuka, 2004; Bonk & Zhang, 2006).

Individualized Pacing. Asynchronous learning technologies have been defined as personalized learning tools (Lorenzo & Ittelson, 2005). With these tools, the teacher can assess what students understand and adapt future course assignments to facilitate a higher level and more in-depth understanding of the content (Bonk & Zhang, 2006; Hrastinski, 2008). These online learning environments create an opportunity for online students to become highly reflective on their own learning **needs** (Bonk & Zhang, 2006). Perhaps most significantly, what is facilitated through the use of asynchronous tools provides a learning space where participants can confront debatable ideas and faulty thinking in more objective and reflective ways (Garrison & Kanuka, 2004). Additionally, individualized pacing in asynchronous learning environments can provide a record of content and skills students can refer back to often; as such, learning and discourse are often more thoughtful, reasoned, and individualized (Garrison & Kanuka, 2004; Lorenzo & Ittelson, 2005; Bonk & Zhang, 2006; Hrastinski, 2008).

The Transformative Potential

Students, in a traditional classroom environment, depend on the teacher to deliver, guide, manage, and maintain the flow of instruction using a synchronous approach to education. However, this is not the case in an online learning environment where there is a shift in the student-teacher relationship, the educational model, and the learning environment where an asynchronous approach to learning is more prevalent. The transformative potential to combine these two learning approaches results in an online learning approach to education called blended learning (Garrison & Kanuka, 2004; Er et al., 2009). Blended learning is an integration of synchronous and asynchronous learning approaches and the use of supporting technologies “not

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Comment [11]: Yes, and this is so important as students continue to learn and develop their educational experience.

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a layering of one on top of the other” (Garrison & Kanuka, 2004, p. 99). There is evidence that blended learning environments have the potential to transform learning. Garrison and Kanuka (2004) report that students achieve the same, or better, in online learning environments compared to traditional classrooms. Other perceived benefits achieved by blended learning environments include better student attitudes toward content and an increase in student satisfaction with the mode of instruction compared to traditional formats (Garrison & Kanuka, 2004).

Conclusion

It is clear that to compare the advantages and disadvantages of each learning type would require an extensive study of the needs of a diversified student body (Er et al., 2009). The technologies associated with synchronous and asynchronous learning can improve the quality of student-teacher interactions, foster increased student engagement, and improve learning outcomes (Hastie, Hung, Chen, Kinsuk, 2010; Simonson et al., 2012). There are strengths and weaknesses to both designs. Some students like a synchronous online learning environment because they need face-to-face instruction, in real-time, receiving instant feedback within four walls of a traditional classroom environment. For other students, an asynchronous online learning environment provides more time to form their thoughts or consider all sides of an issue before offering their own educated input. Both learning technology types have very unique benefits and limitations to online learning. Er et al., (2009) suggests that in order to overcome these limitations the two learning types should be integrated and utilized to support student needs within an online learning environment. Therefore, synchronous online learning can be blended with a variety of asynchronous technologies and vice versa to create a blended online learning environment with the potential to meet many learning and teaching styles.

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Comment [13]: Can this kind of be the best of both worlds? Does a blended learning environment need to be in a traditional classroom part of the time?

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Comment [14]: I agree, and with your suggestion to combine them both together, do you feel they can complement each other?

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Comment [15]: Great references!

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